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From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
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Reply-To: Ham-Homebrew@UCSD.Edu
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Subject: Ham-Homebrew Digest V94 #298
To: Ham-Homebrew

Ham-Homebrew Digest Sun, 9 Oct 94 Volume 94 : Issue 298

Today's Topics:

 Biasing tetrode tube - affects gain?
 can square wave oscil (4046) be used for vfo/bfo's ?
 Fractional turns on toroids?
 INDUCTANCE MEASURING

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We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sat, 8 Oct 1994 03:09:29 GMT
From: dgf@netcom.com (David Feldman)
Subject: Biasing tetrode tube - affects gain?

I'm slowly progressing on a passive grid driven 4-1000 amp. I can either
bias it as a regular tetrode per eimac specs (some screen voltage and
some grid voltage as appropriate), or bias it as if it were going to
be run like a grounded grid triode (ground the screen, DC ground the
control grid, and AC ground the cathode, with a few volts of zener
bias in the cathode DC path as would be done for grounded grid).

Anyway, it seems like it would be much simpler to use the grounded-
grid style biasing (remember, the tube would still be grid driven, so
it is not a regular grounded grid circuit).

Would these two approaches yield different gain in the amplifier, all
other things (AC circuit parameters) being equal? I want to take the
passive grid driven approach to (1) avoid the tuned input needed for
a grounded grid amp, and (2) reduce drive requirements to about 50W

for full output.

Thanks for any insights!

73 Dave WB0GAZ dgf@netcom.com

Date: 9 Oct 1994 07:35:15 -0000
From: mike@io.org (Mike Stramba)
Subject: can square wave oscil (4046) be used for vfo/bfo's ?

Can a square wave oscillator, such as the oscillator in a 4046 pll be used either as a bfo or vfo?

If not, is this because of the many harmonics generated by a square wave?

Specifically I'm trying to build a direct conversion receiver using the 4046 and a 1596 mixer.

Mike

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Mike Stramba Email: mike@io.org
Toronto, Canada Internex Online - Toronto, Canada (416) 363-3783
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Date: Sat, 08 Oct 94 21:06:03 EDT
From: Mike.Czuhajewski@hambbs.wb3ffv.ampr.org (Mike Czuhajewski)
Subject: Fractional turns on toroids?

The June 1994 issue of QST had an article, "Inexpensive Interference Filters", where the author specified fractional turns on toroidal cores. (Specifically, he gave tap points at fractional turns.) I was always under the impression that the general rule of thumb was to count one turn through the center of a toroid as a turn, and not to worry about fractional turns. Indeed, several carefully controlled experiments with relatively large cores (1" and up) over several sessions, on a Boonton 260A Q meter, gave thoroughly inconclusive results. Sometimes the addition of a fractional turn gave an increase in inductance (slight), sometimes no difference, and sometimes--I swear this is true--it even indicated a slight reduction. These tests were done with fairly similar methodology, but over a period of time and with a variety of cores. I did not document them thoroughly, but may repeat them in the future. (And yes, I did try as hard as possible to freeze all turns in place with Q dope, keep leads from the coils to the

fixturing as rigid and unmovable as possible, etc.) Has anyone experimented, under closely controlled conditions, with fractional turns on toroids and proven whether or not they are worth worrying about? (As the author himself admits in the text, and as many homebrewers have known and proven over the years, "the coils inductance won't always be exact because of variations in core permeability and winding technique.") 73 de WA8MCQ

Date: 8 Oct 1994 09:10:07 -0400
From: jimn0oct@aol.com (JimN0OCT)
Subject: INDUCTANCE MEASURING

In article <pelt-0710941337220001@box185.ams.vt.edu>, pelt@vt.edu (Ranson J. Pelt) writes:

that he needs something to measure small inductances.

How small?? Are we talking microhenries or nano henries?? If micro, the Autek RF analyzer is real handy for those measurements, and they are done at the frequency of interest. I have one, and am a satisfied customer, not an agent of Autek.

73, jim n0oct

End of Ham-Homebrew Digest V94 #298
